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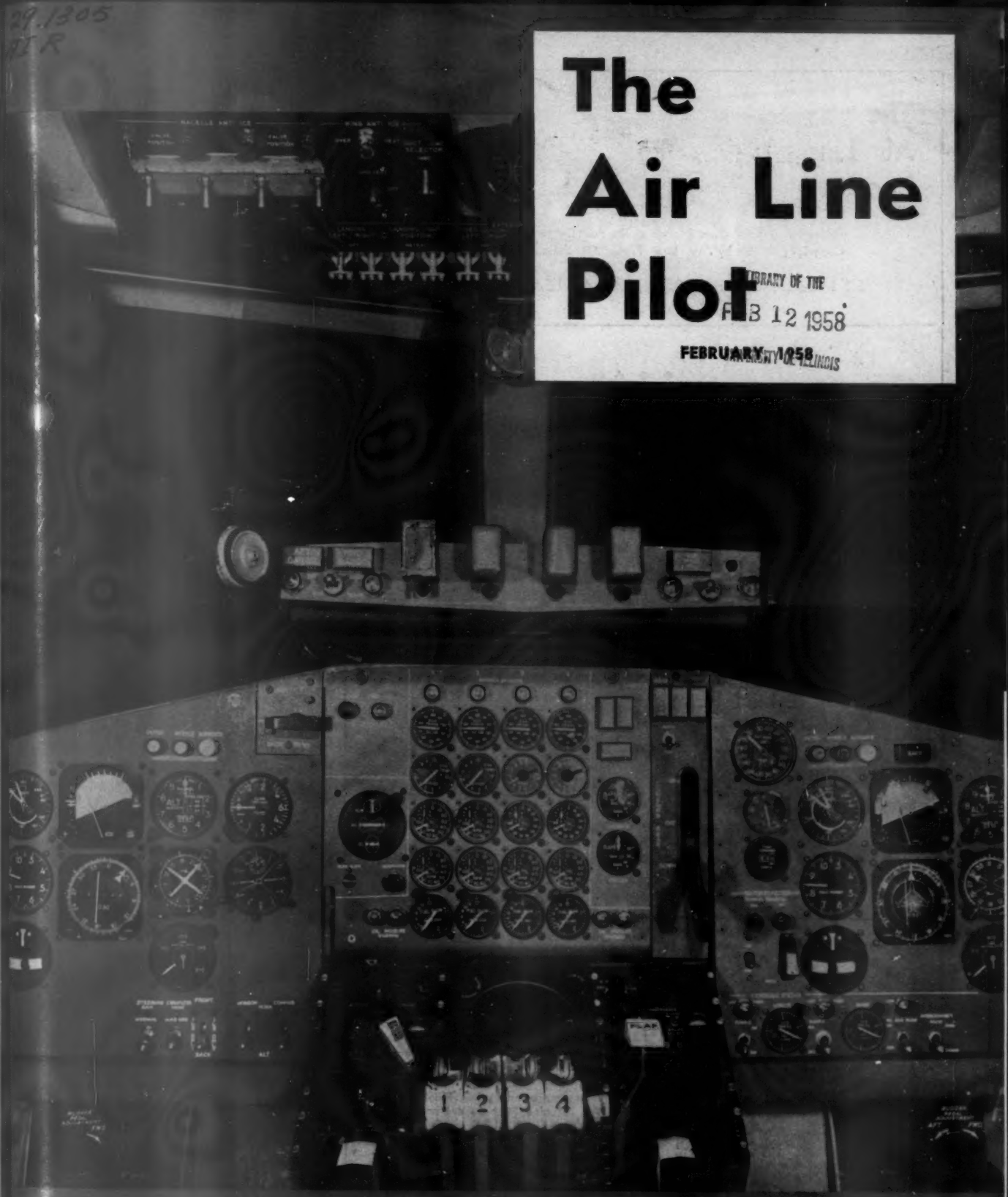

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The "BASIC T" Story

The Air Line Pilot

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ED MODES, Editor AL LEACH, Asst. Editor

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On the Cover

As a professional group, the air line pilots, in keeping with the obligations and responsibilities that their professional status imposes upon them, have over the years made many contributions to the advancement of aviation and flight safety.

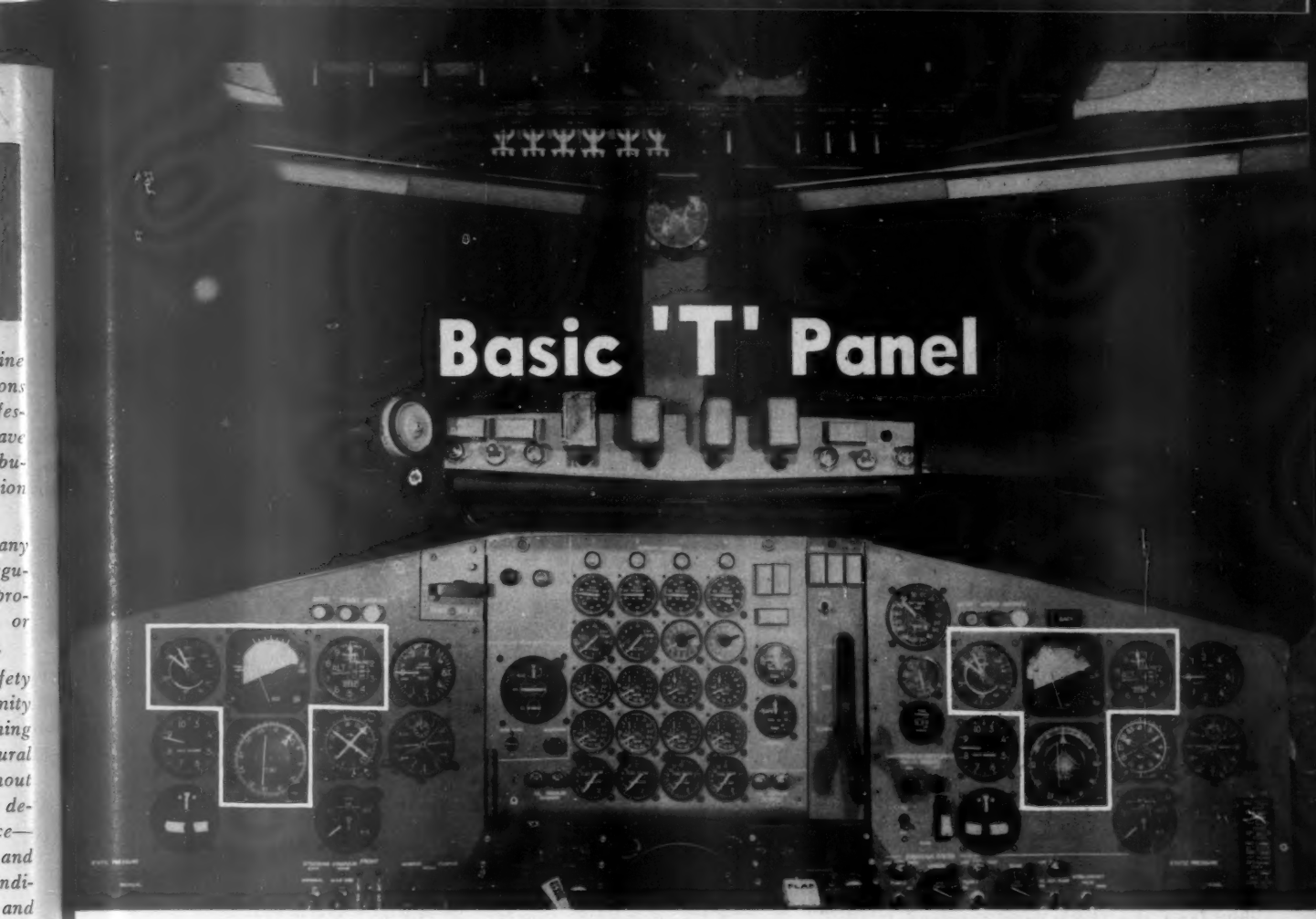
These contributions have taken many forms: sometimes, for example, a regulation; or, maybe an operational procedure or an aircraft refinement or safety device, to mention just a few.

Too often aviation and air safety advancement is masked in anonymity and taken for granted as something that just happened in the natural course of things. But almost without exception, behind every worthwhile development is a potent guiding force—some organization that sees a need and a job to be done, some dedicated individuals with the ability, know-how, and proper support to accomplish that job.

This month's cover picture typifies and symbolizes one such accomplishment—the development of the ALPA Basic T instrument panel, which, after several years of work, has now been adopted as the National Standard for cockpit instrument arrangements, and, it is hoped, will be ultimately adopted as an International Standard.

It is a picture which only took a few minutes for the photographer to shoot, and, as a picture, is not too much different from any other picture. But the picture resulting from that photographer's few minutes of work was made possible only by the many years of development, research and study which went into the ALPA Basic T. It is really a pictorial substance of the development of an idea and the accomplishment of an objective.

We thought the story leading up to this picture was interesting, important, and worthy of the telling. This story begins on Page 3, of this issue.



Basic 'T' Panel

By Al Leach

"THE ALPA Basic T."

That name is one which by now is familiar to most air line pilots. It is the designation commonly applied to the ALPA-developed, ALPA-sponsored, and ALPA-supported standardized cockpit instrument panel arrangement officially known as 4b.611(b) of CAR Part 4b. And it will become an even more familiar name in the future as it is installed on new jet aircraft to take its rightful dominant place with the old standby "needle-ball-airspeed," gauges as the primary flight aids in IFR conditions.

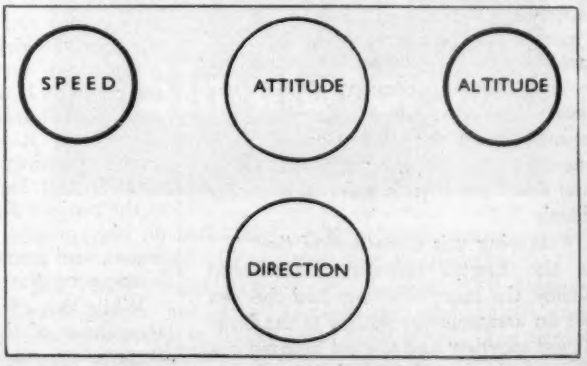
While the ALPA Basic T, is of itself familiar, the story behind its adoption as a standard in all aircraft is a less familiar one of accomplishment by the Association and the many pilot specialists who, over a period of years, gave much of their time, ability and energy to get the job done.

The story is typical of how operational problems develop, are recognized, and then solved and processed under the Association's "cockpit viewpoint," approach to air safety. It goes back perhaps a decade to shortly after World War II when cockpit instrument panel arrangements varied from air line to air line, and often, from plane to plane on the same air line.

Sentiment Grew

The tendency toward equipment interchanges during this period further complicated the problem of dissimilarity of instrument arrangements. Association sentiment for cockpit standardization grew, and, in 1950, the Board of Directors, in broad terms, set such standardization as an ALPA policy goal. This was reaffirmed and strengthened, with particular emphasis on flight instruments and their arrangements, by the Board of Directors in 1955. Thus, the total support of the Association was thrown behind this objective and development of the ALPA Basic T, began as an ALPA project.

Looking at the accomplishment in retrospect, it seems a wonder that such a simple, reliable instrument arrangement was not established years ago. But it was a case of everybody talking about attitude, air speed, altitude, and direction but not doing anything about it until the Association, by strong support of the members and coordinated



Development Of The ALPA "Basic T," Standardized Instrument Panel Took Years Of Time, Effort By Many Pilots To Gain Recognition And Approval

teamwork of pilots interested in that subject, won acceptance of the Basic T.

While it is impossible to accurately measure or assess the part played by individuals, much credit must go to pilots like Warren Hitt, chairman of the ALPA Cockpit Standardization Committee, Joe Kelley, who was also a member of the ALPA Cockpit Standardization Committee; Charley Daudt, Bill Record, Ed Webber, Cliff Kraemer, R. C. Robson, Ed Bechtold, Jim Grier, Vernon Peterson, George Cooke, Gil Sperry, John Lovett, August Place, Bob Stone, Roy Holm, Ted Patecell, Ed Taaffe and many others who aided in developing and pushing the project to completion.

Invaluable support for Basic T was also provided to ALPA from the industry side by men like Dave Little, American Airlines; Lt. Gen. T. S. Power, chief of SAC, USAF; Maj. Gen. J. D. Caldara, USAF director of flight safety research, and Bob Meyersburg of the CAA.

Plenty Of Trouble

The Association's efforts ran into plenty of trouble even though the USAF was working independently along the same lines of cockpit arrangement, and the CAA came to the support of the air line pilot's thinking on flight instrument standardization.

Prior to the CAB regulation coming into force, the ALPA Basic T arrangement was also adopted by the International Federation of Air Line Pilots Associations. Too, it will soon be presented to the International Civil Aviation Organization for possible adoption as standard throughout the world.

Cockpit instrument standardization was discussed at great length at a meeting of the ALPA Lockheed Electra Evaluation Committee in Indianapolis in January, 1956, when Daudt and other members of the Committee pointed out that the CAR Part 4-b, "Basic Six," arrangement—then prescribed for all new types of air line aircraft—would "hamstring," the new integrated flight instrument. The new concept already had been demonstrated on Capital Viscounts, using the IFS. Capital pilots eagerly welcomed the proposed change and were the first to refer to it as the "Basic T."

Following this discussion of the "T," at the Electra meeting, Daudt and Kelley, the latter of whom had checked out an arrangement similar to the Basic T, got together and started figuring out what a basic system of instruments should be. Using "scale" photographs of the new flight instruments, they started playing "checkers" with them.

Four Instruments

They wound up with the "T" of four instruments. At the left on a horizontal line they had the airspeed indicator. In the center of the T, was the horizon flight director, and at the right was the altimeter. Then in a vertical line under the horizon flight director was the "situation display," instrument. In essence, this was the birth of the ALPA Basic T.

But the development of a suitable arrangement, still left the big task of obtaining acceptance of it, without which acceptance, the idea, as have many, would fall by the wayside and remain merely an idea rather than a reality.

Since the Civil Air Regulations then would not permit its use, the help of Captain Hitt, the ALPA representative on the SAE Committee S-7 for cockpit standardization, was solicited.

It had taken so many years to get the "Basic Six," standard into the CARs, that there was great reluctance in some quarters to permit any additions to, or substitution for it.

A survey of opinion among the Air Safety chairmen of ALPA indicated 90 per cent preferred the ALPA Basic T arrangement so the Association took on the job of convincing the government and industry that the arrangement should be adopted.

Hitt says:

"The CAA had, more or less independently, also come to the conclusion that the Basic T was desirable and turned their influence to our support. Without this support it is doubtful that we could have secured the change in regulations."

Accepted Internationally

Meantime, C. N. Sayen, President of ALPA, and Capt. Hitt appeared before CAB airworthiness reviews, conferred with technical committees of IFALPA, and, at the 12th conference of the International Federation of Air Line Pilots Associations on March 13-20, 1957, subsequently it was adopted as a worldwide pilot standard by the member organizations. Kelley and Hitt also attended meetings in San Antonio, Los Angeles and San Francisco in pursuit of the project. Kelley presented a paper on the project at an ALPA Safety Forum and attended many USAF conferences on the subject.

While this effort for recognition and acceptance of the ALPA Basic T was in progress, many air line pilots took opportunities to fly "hooded," instrument approaches in demonstration aircraft of several manufacturers of integrated flight instruments.

Kelley, as a member of an ALPA new plane evaluation committee, had checked out the arrangement as provided by the Collins Radio Co., which arrayed its flight instruments in the Basic T. He was immediately impressed.

Focalizes View

"With the Basic T," reported Kelley, "wide area scanning was eliminated, as all the vital information is concentrated in the smallest practicable visual field, centered on the controlling attitude instrument.

"Airspeed, pitch and altitude are displayed along a common horizontal reference line, all being responsive to changes in pitch and providing the 'forward view.'

"Dropping the glance just below the attitude indicator gives the 'plan view,' and the magnetic heading.

"Focalized in this smallest, practicable area are all of the indispensable items of intelligence required for the control and navigation of the aircraft. They are related and used in the same manner for every flight maneuver from takeoff to touchdown.

"As a consequence, their usage is the same during an instrument approach as in every phase of flight, so that there is no sudden transition from enroute operation technique to instrument letdown technique.

"In effect, every conventional maneuver embodies the same instrument utilization as does an instrument approach, so that the pilot is 'practicing' during his entire time aloft.

"The feeling is so natural with the Basic T, that the pilot can 'groove it,' to touchdown without straining," says Kelley with emphasis.

With interest mounting in the Basic T arrangement, Kelley also presented a technical paper at the ALPA Safety Forum to put the pilots' thinking for standardized instrument arrangement before the industry.

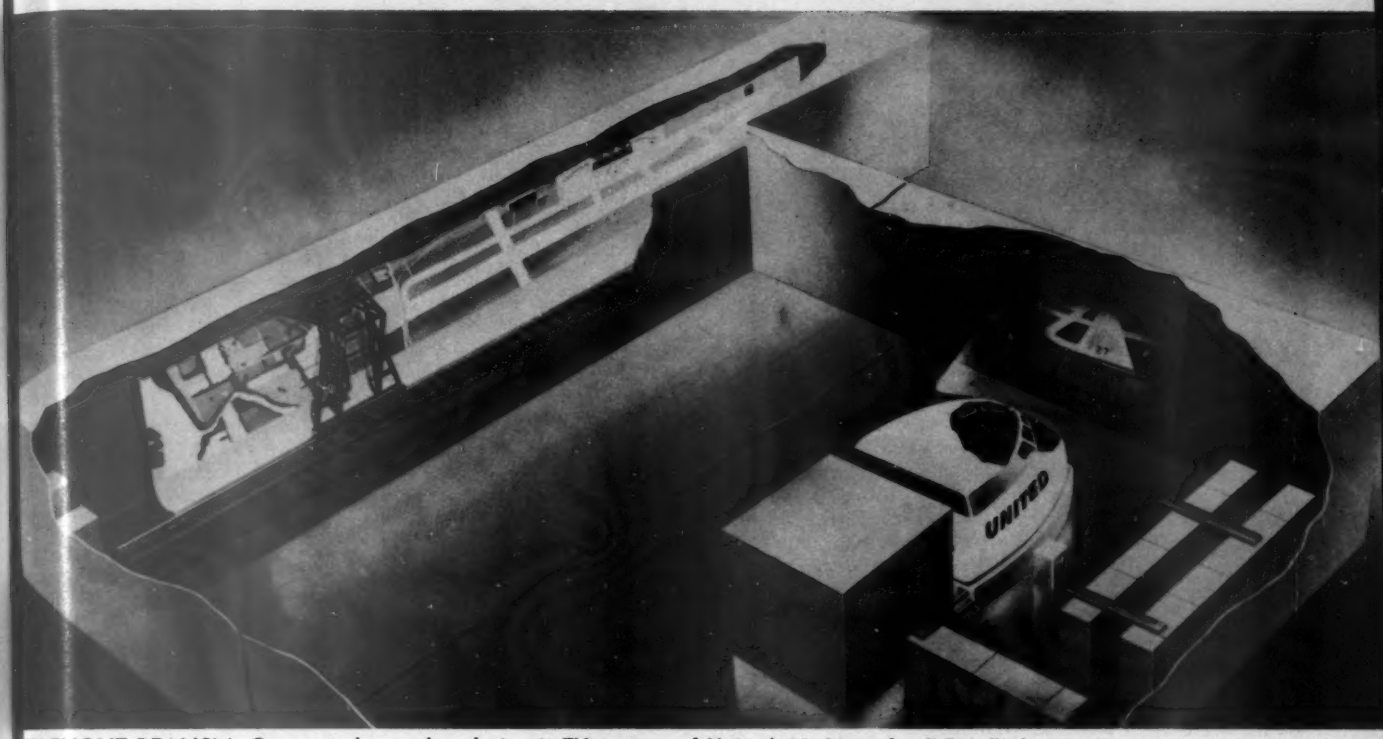
Knothole View

In an introduction to the subject, Kelley had a comparison to make:

"Consider a youngster trying to follow the progress of a baseball game through several knotholes in a fence, each one of which commands a view of only one of the bases.

"He watches the batter take his cut, then dashes to another knothole to see the action at first base, to yet another to see him slide into second, to another for the play at third, and the poor kid just misses the spectacular put out at home plate.

(Continued on Page 21)



TV FLIGHT REALISM: Concept shows closed circuit TV system of United Air Lines for DC-8 flight simulator in training jet pilots.

Experience With Flight Simulators

By A. F. Bonnalie
Director, Training, Flight Operations
UAL

UNITED AIR LINES has long been interested in the best possible training for the air line pilot. Some five years ago it became apparent that the future demands on training would increase rather than decrease. The inclusion of jets in commercial service, for instance, obviously would complicate the training problem.

It was also recognized that in addition to the then accepted types of training a continuing type of proficiency training was needed that would insure the maintenance of the standards of proficiency that were becoming more demanding all the time.

These things posed problems that called for new solutions. On the jet age problem, fifty of United's flight supervisors have now completed a special course at the University of Southern California and twenty-five more have started school work.

The post-war development by Dr. Richard Dehmel of the Curtiss-Wright Company of the electronic flight simulator seemed to make possible the use of a piece of ground equipment that would be very effective as a training device. The machine is essentially a crew trainer, most essential when crews do not stay together. Its availability and its safety allow training in low altitude emergencies where actual practice in the airplane is too hazardous for acceptance.

Training Accidents

During the 11 years, 1946 to 1956, the scheduled air carriers of the United States have had a total of 41 training accidents in which substantial damage or complete destruction occurred. These 41 accidents involved 140 people, of whom 30 were killed and five suffered injury.

One of these accidents was a collision with a private airplane but the list does not include two non-scheduled four-engined aircraft which collided over an airport while both were engaged in simulated instrument flight.

Many of the accidents listed were the result of the feathering of engines, loss of flying speed and other things sometimes experienced in training and flight checks. The number of near misses involved is not reported but unquestionably there have been many near the heavy traffic terminals. This accident toll would have been reduced greatly had simulators been used more generally in airline training.

At the time United Air Lines reached the above mentioned conclusions, in 1951, Curtiss-Wright had built for Pan American the first electronic flight simulator to represent a multi-engine transport airplane, the Boeing 377 Stratocruiser. A group of United pilots were selected and sent back to Pan American in New York to take their simulator course. The reports made by these people indicated that the simulator offered much promise as a crew trainer and would be a worthy addition to the company's equipment.

The result was the purchase of four flight simulators by United from the Curtiss-Wright Company, simulating the DC-6B and the CV-340. The first one, of the Convair type, was delivered the end of 1953. Later three more simulators, two of them of the DC-6B and one more Convair were purchased. The delivery of these last three having been completed just before the end of 1956. Two of the simulators, the Convair and a DC-6 are located at Chicago, Midway. The other two of the first group and the three additional ones have been located in Denver. This is the largest group of simulators owned by any non-military carrier and the present investment in simulators stands at $5,000,000.

10,000 Trainees

Since April 1, 1954, when training started, a total of 35,346 hours of simulator training has been given. There have been about 10,000 trainees in the sessions which includes all duplications. United Air Lines' total flight officer group numbered about 2,100 at the end of the year 1956.

As an indication of how this training was broken down, during the year 4,900 simulator hours of proficiency training were given to 784 Captains, 934 First Officers and 340 Flight Engineers. Transition training consisted of 2,170 simulator hours to 192 Captains and 191 First Officers. Basic training of 4,350 hours was given to 260 new employees being trained to be Copilots and Flight Engineers.

About 2,000 simulator hours were devoted to refresher, upgrading, etc., and about 1,000 hours was for MATS and for other carriers. Total simulator training in the year 1956 was 14,442 hours.

Types of Cockpits

The simulators owned by United represent three types of airplanes that were in use in the fleet last year. Cockpit differences and emergency procedure differences between the DC-6B represented by the simulator and the DC-7 are relatively minor. The DC-3 and DC-4 are not represented in the simulator and accordingly all training for those two types involved more flying. With all types something like 29,000 hours of airplane-simulator training was given in 1956, divided about equally.

The best training equipment in the world is of no value if it is improperly used. Since the beginning of World War II, the policy of UAL has been for the training to be given as far as possible by professional instructors. This includes both ground and flight instruction.

The last several years this aim has more nearly been realized than before with only peak demands of training, mostly in the way of refresher, being an obligation of the operating organization.

It is felt that the use of professional instructors insures a better standard of training, providing of course that the instructors are chosen for their qualification and ability as teachers.

The breakdown shows several types of training given in the simulators, namely, proficiency, transition, basic, refresher and upgrading.

The proficiency training is for people who are operating on the line as pilots qualified on specific equipment. A separate group of instructors whose work is confined to simulator training in the proficiency area have been selected and one of the requirements is a minimum of five years of line experience. A few of the instructors have been hired from outside of the company but generally speaking the simulator instructors are pilots who have been retired by United either for physical reasons or age.

In the basic and transition instruction the instructor to which the trainee is assigned handles both the simulator and the airplane without distinction. Flight Engineer instruction includes considerable simulator training handled by the Flight Engineer instructors in the simulator.

Crew Training

In proficiency training no marks or grades are assessed against the trainee. It is crew training essentially and they work with the instructor alone. The operation of the Navaids, the ATC and tower communications is handled by an operator who is separated from the crew.

At Denver the Navaid equipment and communications has been centralized in a central control room, moving the operators out of the simulator itself. The result is that the crew undergoing proficiency training, or in fact any type of training, are in the simulator with the instructor only.

In basic transition and some other training, grades are required by government regulations. But even here with the exception of new men every attempt is being made to minimize the grading and to approach the trainee as a professional man who is adding to his ability and knowledge, not as if he were an undergraduate.

Following this same line of reasoning, proficiency checks are being given by a special group of Flight Managers —Standards, using the simulator and the airplane. These Flight Managers work for the line organization.

New Regs

A new CAB regulation will allow the substitution of a proficiency training program for Captains in lieu of one proficiency check a year. This new regulation is a result of an application by United a year ago. It is felt that this is a long step in the right direction and the plans now being considered contemplate the centralizing of all proficiency checks at Denver, as well as all rating checks.

This will take a great deal of flying out of high density terminal areas, reducing the congestion at these points and promoting safety accordingly. The required simulator training will be given at both Denver and Chicago.

The engineering and maintenance of as complex a machine as the electronic flight simulator is very important or the machine will not continue to represent the airplane. A small engineering department was found to be necessary and special groups of well trained competent technicians are used to keep the simulators in order and to install projects along with changes in the fleet.

Jet Applications

Electronic simulators have been found to be so effective that some new applications are quite promising. A turbine engine training simulator, not yet in existence, is proposed for the training of pilots, flight engineers and mechanics, on the proper operation of the turbine type of power plant.

The running of the jet engines themselves in training will be very expensive for not only is the fuel consump-

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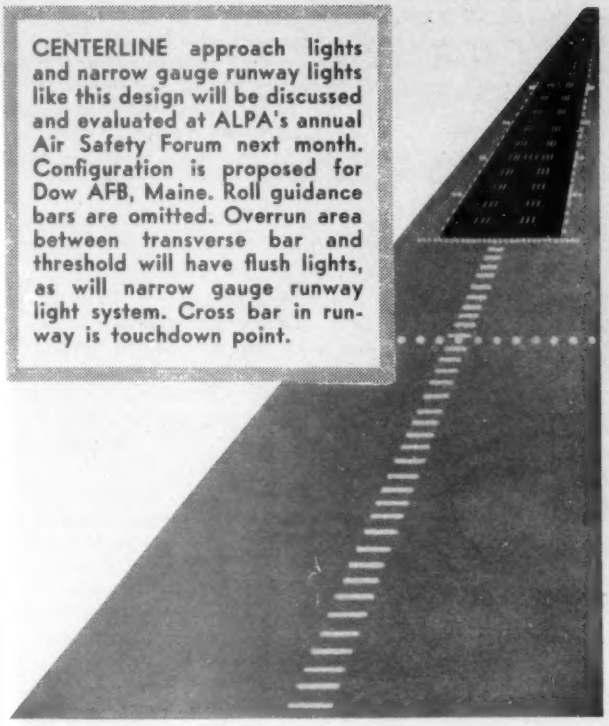
Sixth Annual Air Safety Forum Agenda Readied



CENTERLINE approach lights and narrow gauge runway lights like this design will be discussed and evaluated at ALPA's annual Air Safety Forum next month. Configuration is proposed for Dow AFB, Maine. Roll guidance bars are omitted. Overrun area between transverse bar and threshold will have flush lights, as will narrow gauge runway light system. Cross bar in runway is touchdown point.

WIDE areas of prime interest in these days of rapid transition into the jet air age are on the agenda of the Sixth Annual Air Safety Forum sponsored by the Air Line Pilots Association.

The 1958 Air Safety Forum will be held March 4-5-6, at the Shoreland Hotel in Chicago.

As in the past, the Safety Forum will be attended by representatives of the ALPA safety organization and top representatives of industry, government and military to discuss and evaluate the many facets of maintaining air safety at a maximum level.

Since the Forums were established by the 12th Convention of ALPA — the first Forum was held in 1953 — the symposiums have grown into one of the most important and significant sounding boards for air safety in the country.

Important Progress

Its sessions have produced progress in such important fields of aviation safety as air space and air traffic control, anti-collision devices, better cockpit instrument arrangements, and many others. Also the Forums have promoted coordinated thinking and closer co-operation among the people in every segment of aviation.

The Air Line Pilots' philosophy behind the Forums is that, as professional men, their concern about air safety goes far beyond the actual aspects of job performance and they must have active participation and responsibility in aviation planning, research and development — all of which are related to the final discharge of a pilot's responsibility and cannot be delegated to anyone else.

The specific aims of the Safety Forums are:

- To insure adequate study of Association air safety subjects for policy making purposes.
- To provide opportunity for analysis of the work done by special pilot committee.
- To enable Association representatives to exchange viewpoints with top industry and government experts.
- To promote ALPA organizational safety efficiency.

No policy or fast ALPA rule is made by the Forum representatives. But from its proceedings, plans and recommendations for advancing air safety are distributed to safety representatives in every ALPA council for study and opinions.

Packed Agenda

The agenda of this year's forum is a well-balanced and concentrating on subjects of great importance. These include panels on positive traffic separation and airspace utilization, the CAA and CAB's enforcement policy, pilot training, runway requirements, and mid air collision prevention.

Separate committee meetings and discussions will be held the first day by the central air safety chairmen, the airspace subcommittee chairmen, regional and area safety chairmen, the ATC committee, and the new plane evaluation committee.

The first day's sessions will be closed but the programs of March 5-6, will be open and ALPA members are especially invited to attend.

A special program on the first night open to all Forum participants will be a flyby over the lake alongside the hotel to demonstrate new anti-collision lighting systems. One of these will be on a UAL plane. Capt. William Atkins, a (NW) pilot from Minneapolis, and Don Hoskins, Chicago, both inventors of condenser discharge type lighting systems, will exhibit their lights.

Important Personages

Following an address of welcome by President C. N. Sayen on the second day, Capt. J. D. Smith (CAP), chairman of the ALPA ATC committee, lead a panel discussion of "Positive Traffic Separation and Airspace Utilization."

(Continued on Page 22)

Three Day Sessions To Bring Together Representatives Of ALPA Air Safety Organization, Industry, Government And Military

10 Years Old: Success Story ALPA Credit Union

EXECUTIVE BOARD members of ALPA's Federal Credit Union meet. From left they are: R. J. Willman (DAL), C. E. Solle, manager; R. O. Blaisdell (NOR), B. L. McConaghy (TWA), treasurer; Kay McMurray, ALPA executive vice president; J. R. Martin (CAP), and M. R. Painter (TWA), a member of the credit committee.

THIS year, the Air Line Pilots Association Federal Credit Union marks a decade of service.

A close companion, servicewise, to Mutual Aid and Insurance, the ALPA FCU operates quietly to fill the specialized financial and security needs not covered by these other supplemental Association services.

With little fanfare and none of the "hard-sell," the ALPA FCU has gone inconspicuously about its business of fulfilling its two fundamental aims — serving as a source of low-cost loans for provident and productive purposes and a combined saving-investment vehicle providing ready availability of funds at a reasonable return.

Despite its unheralded presence, the ALPA FCU is today worth more than a million and a half dollars, a healthy financial stature achieved in the 10 years since it received its federal charter, and an outstanding achievement by any measure.

The real fact, however, is that air line pilots, their families, and ALPA employees in ever increasing numbers have recognized participation in the ALPA FCU as a sound practice whether for purposes of borrowing or saving-investing.

Hence, the ALPA Credit Union has grown from a $14,921.31 infant with 102 members at the period of its first financial report, May, 1948, to a healthy 10-year-old with $1,572,328.15 in assets and 4,337 members as of Dec. 31, 1957.

When the last financial and statistical report was made, the FCU had $1,113,329.43 outstanding in loans to 1,468 persons. Its members had $1,466,770.79 in shares on which there has always been at least a 3 per cent dividend paid each year. Last year the dividend was 4¼ per cent, a total of $37,694.07.

The ALPA Federal Credit Union has had only five presidents since its inception. First, was David L. Behncke, founder, first president of ALPA, and extremely active in the organization of the FCU. Following him were Hubert F. LeGendre (CAP), French Conley (UAL), Milton H. Ellyson (NOR), and M. L. McFarland, Jr. (UAL), is current president. All members of the FCU executive board serve without pay.

All Purpose Loans

Loans now are made for all purposes, homes, medical bills, automobiles, debt consolidation, furniture, business or investment, and even for vacations. Then, there was the pilot who was getting into the deep sea diving business — he borrowed to buy equipment.

A big item on the loan side of the ALPA FCU is the practice of many pilots to borrow enough to prepay their ALPA dues on an annual basis before January 31, thereby saving 10 per cent. As they pay back at the annual rate of $6.50 per $100 borrowed, they actually make money on the transaction.

The reason for the nominal rate is that there are no "hidden charges" in the ALPA Credit Union operation. Aside from furniture and equipment, the FCU's only overhead is the salaries of four full time and two part time employees.

FCU shareholders' money, other than the amount on loan, is invested in U. S. Savings Bonds or with savings and loans associations.

From interest on its loans and dividends from its investments, the FCU last year showed a net profit of $55,215.18, or almost $5,000 a month.

To join the Credit Union and be eligible to borrow, an ALPA pilot, or ALPA employee need only to buy one share of stock at $5 and pay a 25-cent membership fee. However, many have made it a regular savings account and reached the $10,000 investment limit.

A good feature about the investment plan is that borrowing as a shareholder, the shares are collateral and no co-signer is required.

Loans range up to $5,000. Amounts up to $400 can be obtained on the borrower's signature if he is an active ALPA member. If the borrower has a co-signer he can borrow from $600 to $1,000 for each co-signer. Pilots represented by ALPA on every air line are eligible for membership or loans and can make application through their local executive councils.

History Of Growth

The growth and success of the ALPA Federal Credit Union is epitomized by the first report to the Executive Board of ALPA by George C. Duvall, TWA, who was instrumental in organizing the Credit Union and served as its first

(Continued on Page 19)

Contract For Strobeacons Awarded By CAA

SEQUENCE flasher light systems for 31 additional airports have been contracted by the Civil Aeronautics Administration in an acceleration of the ALPA sponsored single-row, center-line approach lighting program.

The contract for the equipment went to Sylvania Electric Products Inc., and totaled $253,377.50—the largest contract for airport approach lighting ever awarded by the CAA.

According to the CAA, the sequence flashers will be used under low visibility conditions to supplement high intensity approach lights already installed and to be installed.

The flashers complete the configuration "A" approach system developed as an ALPA project to increase safety in airplane landings under minimum weather conditions.

Capt. E. A. Cutrell (AA), last year was awarded the first annual safety award of ALPA for his work in developing the configuration "A" system as a contribution to the progress of all-weather flight. Captain Cutrell worked on the project for 12 years.

It is, and has long been, an ALPA policy to press the CAA for installation of sequence flasher light systems as rapidly as possible at every airport where configuration "A" approach lighting is installed.

Don G. Mitchell, president of Sylvania, said the CAA contract represents "a vitally important step in not only meeting the needs of steadily increasing air traffic throughout the country, but also in preparation for the increased speeds of civil aviation's approaching jet age."

"Such disruptive effects of bad weather as flight delays, cancellations and diversion of approaching aircraft to other airports will be sharply reduced by the new approach lights," Mitchell predicted.

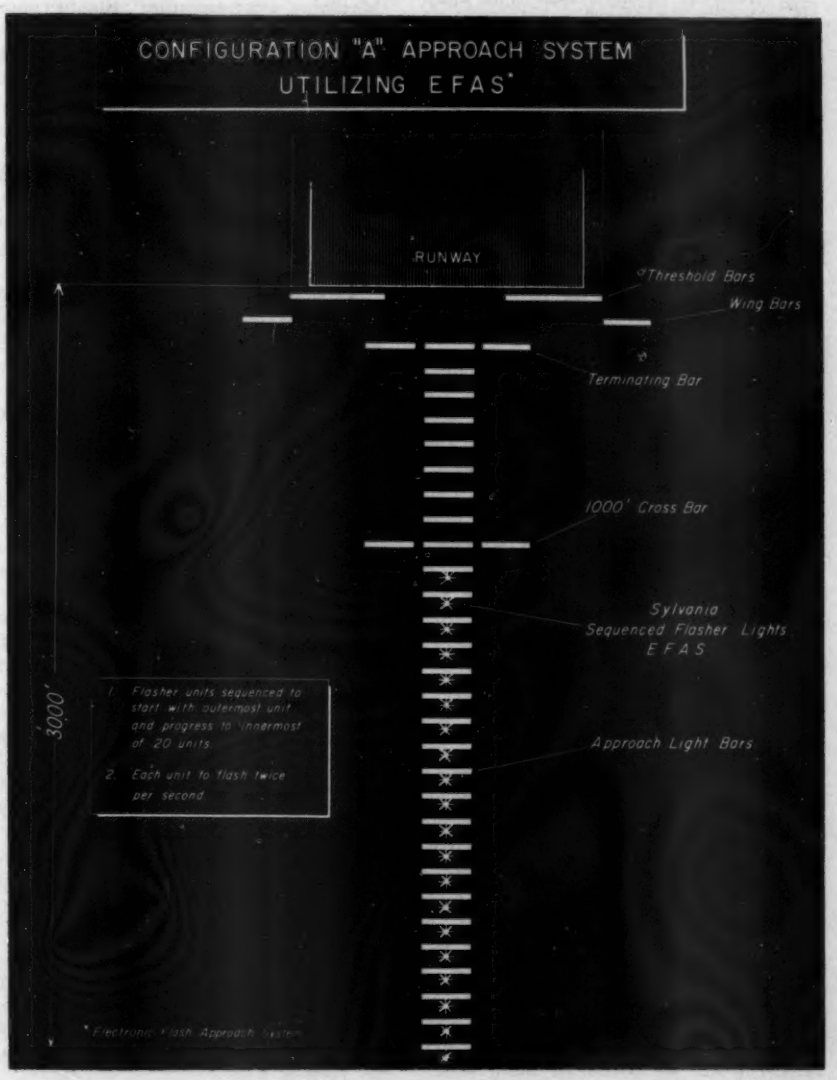
The CAA contract calls for 20 strobeacon units for each of the 31 airports, with delivery starting in February and concluding in June. Thirty systems will be installed at airports in this country—locations yet to be announced—and one shipment was procured for shipment to Brazil under an International Cooperation Administration program.

Some Operating

Currently, sequence flasher systems are in operation at Newark, Cleveland, Idlewild International of New York, Logan International at Boston, and Los Angeles International. A system will be commissioned at Washington National Airport in the near future.

The military also is using the flasher system. Presently operating are flashers at March AFB, Calif.; Hanover Airport, West Germany,, and Schiphol Airfield, Amsterdam, The Netherlands. New systems scheduled for operation this year include Dow AFB, Maine; H.M.C.S. Shearwater, Naval Air Station, Dartmouth, Nova Scotia; and Orly Airport, Paris, France.

Technically described as the Electronic Flash Approach System (EFAS),



the equipment consists of a row of powerful, flashing strobeacon lights installed at 100-foot intervals, beginning at a point 3,000 feet out from the start of the runway and leading in toward the touch-down point.

A full sequence flasher system is comprised of 20 clear lights of approximately 10,000 effective beam candlepower each directed toward the incoming airplane. They flash in sequence from the end of the approach lights toward the runway threshold two times each second to give the impression of a brilliant fireball streaking toward the landing area. The lights are considered non-blinding as each flash lasts only 1/5000 of a second.

Hence, civil and military pilots alike, have a guide along the first 2,000 feet of the approach lights to an identifying cross-bar of light that tells them they are 1,000 feet from the end of the runway.

The new sequence flasher systems incorporate a monitoring device so that traffic controllers in control towers can see at all times if the system is working. Tower personnel will be able to operate the lights manually on request.

1st Pilots' Jet Contract

The Air Line Pilots Association, along with the rest of the industry, has been in the process of preparing for the jet age for some time.

The point reached by these preparations was highlighted on January 15, when the Association signed its first pilots jet agreement, covering the DC-8 with an increment type agreement on National Airlines.

Significance is attached to this new step into the jet age because it establishes principles providing a basis and procedures for orderly transition. By serving to preserve and assure the sound growth of the historic pattern of pilot standards on the new equipment, and by providing a collective bargaining foundation, orderly processes have been brought into existence as contrasted to the situation existing when the last major equipment changeover was made in the post World War II years with the introduction of the larger, faster, and more productive piston-engine aircraft without prior establishment of such standards.

Other Activities

Other important areas in which the Association is actively participating are:

- New aircraft development and evaluation, with ALPA aircraft Evaluation Committees established and working on all new aircraft.
- Airport developments and improvements.
- Air Traffic Control and Airways System selection and development.
- Physical Standards for Air Line Pilots and the effect of jet operations on air line pilots.
- Increased copilot licensing requirements.
- A continuing study of wage and working conditions of air line pilots and the impact the jet age will have upon them.
- Pilot Training Programs.

ALPA Medical Grant

On January 13, the Association presented a $3,600 check to the Ohio State University Graduate School of Medicine, consumating the second-year residency appointment in Aviation Medicine of Dr. William Jones, first recipient of the ALPA Fellowship in Aviation Medicine established last year.

The check is the second payment on a total grant of $7,200 made by ALPA in support of the two-year fellowship, which began July 1, 1957, and covers the period from July 1, 1958, to July 1, 1959.

Known as the ALPA fellowship in Aviation Medicine, and the first one of its kind, the fellowship was established by the Association last year after studies conducted by the ALPA Physical Standards Committee indicated the need for such activity.

Grant Imperative

"Aviation growth, development and expansion, and particularly new problems created by jet technology," it was pointed out when the grant was established, "have made it imperative to stimulate medical study in the terms of air line operations, air line pilots, and the air traveler. It is hoped that the establishment of the first such fellowship by the Association will provide this needed and imperative stimulus and will ultimately be supplemented by corresponding activity by other groups in the air transport industry concerned with this problem."

Ohio State University was chosen because it is presently the only civilian university or college to give graduate training in aviation medicine.

Dr. Jones was selected by a committee set up by Ohio State University College of Medicine from among candidates meeting requirements for admission to graduate medical training.

The requirements, Dr. William F. Ashe, M.D., chairman of Ohio State's Department of Preventive Medicine, said, include "an M.D. degree, graduation from a Class A medical school with an excellent record, at least one year of internship, good moral character, and an intense interest in the preventive aspects of medicine as well as its diagnostic and therapeutic aspects."

Master's Degree

Dr. Jones began his first year of residency on July 1, 1957. He will receive a Master of Science Degree upon completion of an intense course of study prescribed by the Specialty Board of Aviation Medicine and the American Medical Association.

Dr. Ashe, in reporting on Dr. Jones' work said: "He is doing excellent work and is not only a sound M.D., but, by virtue of his prior training, is thoroughly cognizant of pilot problems."

Dr. Jones has had a close association with the air transport industry since 1941 when he was employed by TWA in a ground capacity. He was a pilot on multi-engine equipment while in the Navy and subsequently a TWA flight engineer from 1945 to 1949, prior to obtaining his medical degree. He served his internship at Mt. Carmel Hospital in Columbus, Ohio.

International Briefs

The Civil Aeronautics Administration has certified the rotojet helicopter Alouette II for commercial operation in the United States, it was announced by Republic Aviation Corporation and Sud Aviation of France.

This is the first French-built aircraft ever to be certified for commercial use in this country, and the first gas turbine-powered (jet) helicopter of any make to be certified by the CAA, the announcement said.

Holds Altitude Record

The CAA certification authorized the use of the advanced Artouste IIB-1 turbine engine, built by Turbomeca of France, and rated at 400 horsepower. This, Republic said, is an increase of 40 horsepower over earlier models of this engine, which lifted the Alouette II to new world altitude records a year ago. The added horsepower will increase its performance, Republic said.

Military Aviation Policies

Stimulated by the MATS "bailment" program, Congressional Committee hearings embracing National Defense Airlift operations and mobilization policy were held last month by the Military Operations Sub-Committee of the House Government Operations Committee.

Appearing on behalf of the Association, President Sayen presented ALPA's views on this facet of the mobilization policy as well as those on the CRAF-WASP and Standby and Ready Reserve Programs.

ALPA's interest in legislative consideration of these problems, Sayen said, is considerable because of their direct individual effect on the 900 individual members in the Standby Reserve and the 1,000 in the Ready Reserve and their overall effect on all air line pilots due to the fact that one of the fundamental responsibilities of the civil aviation companies and the air line pilots under the Civil Aeronautics Act is to provide essential air transport for the national defense.

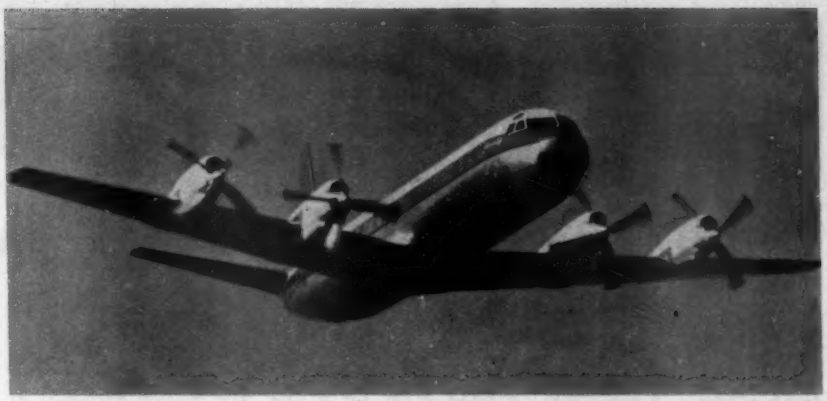
"Immediate attention," Sayen told the Committee, "must be given to the preparation and implementation of plans designed to maximize the utilization of our civilian aircraft capacity in the interest of National Defense. Lack of progress in the implementation of those plans which have been formulated to date and the lack of planning in some others are of concern."

Backs Civil Facilities

Concerning peacetime air transport for the Department of Defense, he said, private aviation enterprise can provide air transport requirements of the defense department, either through utilization of existing schedule facilities or by contract flying, invalidating the need for the military maintaining an enormous air line of its own. There is no doubt, he pointed out, that civil operators may perform these services for the defense department at less cost and without a necessity for reduction of standards of the employees involved.

Regarding the reserve programs, he indicated:

▶ In order for the CRAF plan to be completely reliable and effective, concrete decisions in planning must be finalized. Personnel should be named, trained, and ready to go immediately when the alert sounds. Providing effective air transports on an immediate basis requires finalized contracts with employee groups establishing their obligations and rules for mobilization, and, ideally, informing the personnel involved of their assignments for a definite period.



LOCKHEED Aircraft's new prop-jet airliner on its maiden flight from Lockheed Air terminal. Chief engineering test pilots flew the big plane for some 90 minutes and reported an "all perfect" flight.

▶ While the WASP program differs from the CRAF program in the respect that the aircraft and personnel not committed to CRAF will be pooled to maintain essential civilian air transport, the extent to which intelligent planning can be applied to WASP is determined by the definiteness of the CRAF program. Here again, in order to prevent confusion, inefficiency, and waste of valuable manpower, it is essential that certain basic understandings between government and air carriers, between air carriers themselves, and between air lines and their employees be reached.

▶ To realize the full potential of all three programs—reserve, CRAF and WASP—clarification of the individual's status in relation to all three is a prerequisite. Definite steps should be taken to utilize the individual's abilities most effectively in the defense effort. It should be practical to determine in which capacity the individual desires to serve and is most needed for a definite future period. In this manner a reservist may be utilized in his appropriate rank, if required, rather than being arbitrarily and by group action assigned to CRAF or WASP.

Gains Support

ALPA's position regarding airlift operations was supported in principle by both the Air Transport Association and the Chamber of Commerce of the U. S.

Air transport for military forces on Mobilization Day—if and when it comes—can best be provided if steps are taken now to give commercial airliners a much more active role, the Chamber of Commerce of the United States advised. It added that greater reliance on commercial airlines would also save taxpayers the money now being spent on an enormous build-up of the Military Air Transport Service. Specifically, the Chamber proposed that additional commercial aircraft be designated as part of the Civil Reserve Air Fleet which is subject to call by the Secretary of Defense on 24 hours' notice. Thus, commercial planes, complete with crews, would eliminate the need for MATS planes and the taxes to support them.

The Chamber also recommended that military traffic in day-to-day operations should be routed via commercial planes instead of MATS planes, so that commercial airlines would be encouraged to expand their fleets to meet this additional demand and prepare for emergency.

In conclusion, the Chamber pointed out that new commercial jet transports, scheduled for operating during the next three years, will provide a "fourfold increase" in the airlift capacity of commercial carriers.

Golden T Commended

In a recent article by staff writer Robert J. Serling, the United Press, concluded as the result of interviews with those involved in the Golden Triangle operation—the Air Line Pilots Association, the Air Transport Association and the Civil Aeronautics Board—that its first six months of operation had been decidedly successful.

The Golden Triangle rules, so named because they affected the most commercial air traffic in the heavily traveled area bounded by New York,

TRANS World Airlines has unveiled plans for a new $12 million terminal at New York International Airport. Created by Eero Saarinen, the concept is to capture the spirit of flight and offer passenger comfort and conveniences in keeping with the coming jet age. This artist's sketch shows the low ground level arrival arm.

Washington, and Chicago—went into effect July 1, 1957. The rules essentially required:

- That all flights above 9,500 feet be operated under IFR procedures at all times.
- That all flights above that altitude be flown within controlled airspace.
- That VFR climbs and descents not be used as part of IFR clearances.

These prohibitions and rules applied specifically to flights operating in either direction between New York-Washington (V-116), Chicago - Washington (V-8 and V-144), and Washington-New York (V-16 and V-1). The procedures comprise part of the ALPA program developed by the Association and subsequently endorsed by the ATA, which has concurred with the program to the extent of mutually adopting it as part of the operational regulations of its member airlines.

The theory behind this, the UP reported, has been acceptably proven on the basis of operations during the intervening months since its inauguration. It reported:

"The Plan was drastic. Many flights at the time were operating off-airways and under visual flight rules which meant the pilots bore sole responsibility for avoiding other planes. And putting the majority of flights under instrument rules in this traffic-jammed area pointed to a whopping overload on facilities of government air traffic control centers.

"No Sweat"

"But," the U.P. said, "a Civil Aeronautics Administration spokesman summed up the Triangle's first six months in two words: 'No sweat.'

" 'It gave us some trouble at first,' he explained, 'because we had to take some people out of training to handle the burden of additional IFR flights. But now it's working out very well.'

"All groups concerned with operating the triangle plan have conceded that:

- It has caused no delay nor cancellation of any flight.
- It has given controllers a valuable chance to get more on-the-job training for handling instrument flights in all types of weather.
- Pilots have become more familiar with the problems facing controllers. They are even offering more assistance to traffic control centers in the form of voluntarily reporting positions and altitude information that formerly had to be requested by controllers."

Two Years' Work

Work on the present program began in 1956 when a working group of pilots was created representing all types of air carrier operations and assisted by the ALPA staff to formulate a specific ATC remedial program that could be vigorously pursued. On July 30, 1956, following the Grand Canyon accident, the ALPA ATC Committee submitted a program to the Board of Directors which was approved.

At the 14th Convention, in November of 1956, this entire subject was again explored and reviewed and a positive program formulated. A total of 27 flight rules were adopted as ALPA policy with the proviso that once implemented, they "should be enforced to the maximum limit, including disciplinary action as provided under the By-Laws." The Convention directed the Executive Committee to appoint an implementation committee to recommend a schedule of implementation for various portions of the program.

The Board of Directors also required that plans for implementation of the ALPA-ATC program be submitted to them for approval or disapproval. Implementation procedures for the aforementioned regulations to apply to the Golden Triangle were sent to the Board of Directors on March 26, 1957. They were approved on April 27. Subsequently, on April 28, the Association obtained agreement with the ATA to mutually implement the proposals on an ALPA-ATA basis.

Jet Age Airports?

Most cities in the U. S. are still dragging their heels on airport improvement plans for the fast nearing commercial jet airliner age, says Time magazine in a recent article.

The twice-as-heavy jet transports make most present runways too short for safety, and jet exhausts will melt many runway and taxi strip surfaces, the magazine points out.

Moreover, since six jetliners arriving close together will disembark as many passengers as an ocean liner, the passenger, baggage and ticketing jams of today will pale besides tomorrow's.

Time listed airports in some cities that have not done too badly in construction and planning for the jets. These include:

Boston Logan International, has a main runway of 10,022 feet, no obstructions on approach, and runways that can stand almost any amount of pounding. Its other facilities are good, and new hangars and freight terminal are planned.

Dallas' Love Field has a new $7.5 million terminal building with facilities for six million passengers a year, concrete taxi aprons and loading ramps thick enough for heavier jetliners than any yet designed.

New York, Los Angeles, and San Francisco also expect to be ready with long runways and big terminals. Although San Francisco's new $14 million terminal is only three years old, the city's voters have authorized another $25 million outlay over the next 10 years for runway and terminal expansion to handle the 10 million passengers expected by 1972.

Opposed to such farsightedness, most cities have been slow to wake up to the jet age, says Time.

These include Chicago's tiny Midway, built for the canvas covered planes of 1927, and although $25 million has gone into the new O'Hare Field, another $100 million is needed. Washington, D. C., Kansas City, and Denver face the same problems.

Along the Line . . .

Here and There With Air Line Pilots at Work and Play

Flying (EAL) Farmer Makes Hay Pay As Avocation

HIGHLY popular among his farm neighbors in Pennsylvania's rugged Carbon County is a farm boy who grew up to become an airline pilot. He is David J. Beltz, 13-year veteran on Eastern Airlines' flights out of the New York area.

Around Lehighton, where rural kitchens have specialized in shoo-fly-pie and appel-kuchen for centuries, Dave rates high for several outstanding reasons. He's doing a vital job in America's aviation industry; he's still a first-class farmer; and he's a good, family man, to boot. The latter two items probably carry the most weight with the hard-headed Pennsylvania Dutchmen with whom Dave has never lost touch.

An Eastern Captain since 1946, Dave decided he had enough of suburban existence in the Newark vicinity nine years ago. His first move after installing his family at the five-generations-old Beltz farm was to improve two airstrips on the hill overlooking the farmstead.

He built a cinder-brick hangar and added lights for night flying. Winds over the craggy Appalachian plateau have clobbered the hangar several times. Otherwise, Dave's 40-minute commuting to Newark and return has been fairly routine. In a pinch, he drives the distance in two and a half hours.

The second phase of Dave's "back-to-the-land," movement was to enlist the farm in Carbon County's soil conservation district. The district had just been organized when Dave joined. Typically, he has gone all-out. The Beltz' 300 acres is among the showplace conservation farms in the community. It features advanced soil-saving practices, including strip cropping on the contour, waterway structures, diversion terraces, tile drainage, crop rotations and shrub borders to encourage wildlife of the area.

Nor does Dave stint his aviation talents in assisting the farm community. He gets a big kick out of showing his neighbors how their crops look from the air. He readily jumps from his tractor to his Beechcraft Bonanza to give conservation technicians a bird's-eye view of what is going on across the face of Carbon County. Not long ago he hopped a U. S. Soil Conservation Service photographer who wanted to get pictures of a proposed flood prevention project in the nearby Little Schuylkill River Valley.

Dave married the former Jean Guisewhite of Baltimore, when he was instructing there, back in 1940. She's a city girl but the EAL pilot says that wild horses couldn't drag her off the farm. When not riding their Shetland and Welsh ponies, Richard, 10, and Thomas, 6, attend school at East Weissport. Patricia will soon reach her first birthday. The children haven't put it in writing, but it would take "some doing," to haul them away from their beloved flock of sheep, chickens and spacious fields to play in.

CAPT. DAVE BELTZ, EAL, abandoned Newark traffic for family farm in Pennsylvania. He commutes to work via Beech Bonanza.

The kids love to fly as one might expect, and to complete the interest in aviation, Dave has taught Jean to handle the controls. She has a private license, a handy thing, Dave finds, on family vacation jaunts. Now and then when Eastern is holding school at Miami, the Beltz's all pile into the Beech and are basking on the Florida sands, eight hours later.

But the farm headquarters remains their main family interest. Relaxing around their huge, outdoor fireplace in the summertime, Dave likes to think of an even more intensive farm future. Possessing a handsome pond that is now used for fishing and swimming, Dave has planned still another pond for construction shortly. That accomplished, he'll have plenty of water for a herd of cattle. Young Richard and Thomas will grow up to become flying cowboys yet, it seems.

Patricia? Well, she's more the "Dale Evans," type.

THE PERSONAL PLANE of Capt. Dave Beltz also proves valuable to check soil conservation methods practiced on his farm. An ardent conservationist, Beltz also flies his neighbors to let them see the benefits of soil protection.

THREE BRANIFF AIRWAYS captains recently completed 15 years of service with the company. From left, they are: Jack T. Huston, James F. Hudson, and Lee Parent. All are based at Kansas City. The trio have almost identical aviation careers. They learned to fly at the Spartan School of Aeronautics, Tulsa, Okla., and served as flight instructors before joining Mid Continent Airlines, now Braniff. Captain Huston, a native Oklahoman, was a classmate of Parent at both Tulsa U., and Spartan. Captain Hudson, a native Virginian, became a copilot for the air line in November, 1942, and was promoted to captain in August, 1945. Parent, also an Oklahoman, served with the Naval Air Transportation Service during World War II, and was promoted to captain on his return from service in November, 1945.

Wanted . . .

Names of air line pilots who have an interesting hobby or avocation to continue the series, "Along the Line," in The Air Line Pilot. If you have, or know of someone who has, a well developed hobby or sideline to flying let the editors have the name so the personality can be developed into an interesting feature for your magazine.

TWIN BROTHERS FLYING for TWA receive their 25-year service pins. They are left to right, Capt. M. C. Williams, Carter L. Burgess, former president of TWA; Capt. L. M. Williams, and Frank Busch, TWA operations vice-president. The Williams brothers, who live in Sherman Oaks, Calif., joined TWA in 1932. Each has nearly 25,000 pilot hours logged.

EAGLE SCOUT John Robinson becomes honorary PanAm pilot on award of wings from Capt. C. L. Grinnell of Pan American, as Robinson readied for flight to London where he appeared before Queen Elizabeth in a program sponsored by the British Boy Scouts.

HIRAM WILSON SHERIDAN

Captain AAL

Born May 26, 1897

Died January 17, 1958

"It is the lot of every man that he comes to the time that he must take his leave."

CAPT. Hiram Wilson "Hy" Sheridan wrote those lines. He wrote many, many others too, for Hy Sheridan was a nationally known author and his by-line was widely respected, especially in aviation circles, because he was a pilot's writer.

First, however, Hy Sheridan was an airplane pilot, and an American Airlines captain for 22 years. In fact, he was a pioneer air lines pilot, and even before that he was a crack aviator of the U. S. Army Corps.

He lived, breathed, wrote and promoted the airplane. Many of his achievements are historical and his name will go down in the books as one of the famous men who started with aviation in its infancy and helped it grow into a jet and rocket era within his lifetime.

Ill Four Years

Hy Sheridan was 60 years old when he died January 17. For more than four years he battled a crippling, and baffling asthmatic condition which forced him on sick leave in 1953. But he never stopped writing, even when pain kept him from his typewriter — he even printed letters from hospital beds.

And three weeks before his death — Hy's heart finally gave out — he walked his favorite pet, Skookum, a thoroughbred Samoyed sled dog. Also he was trying to finish a book.

Of Sheridan, Clarence N. Sayen, president of ALPA, said:

"Captain Sheridan was a true friend of everyone and especially to aviation. He loved to fly and his contributions to aviation are legendary. There is no eulogy equal to his sincerity and dedication."

In ALPA, Sheridan demonstrated his place of high esteem. He was one of the charter members — No. 382. He joined June 1, 1931, and immediately took an active part in the activities of those early days when ALPA was struggling to gain industry wide recognition and respect.

Most important, Hy Sheridan lent his writing ability to aid ALPA. He was an early contributor to *The Air Line Pilot,* and in many of his stories in national publications he told of the purpose and intents of ALPA on everything from union activities to the safety policies.

He accomplished many things of a serious nature in his activities and writings, but over it all Hy Sheridan, a sentimental man, kept a constant sense of humor and pleasant personality — he could be hilarious on any occasion. Even when he was critically ill, the inborn humor still came out.

Legion Of Friends

The blond haired, blue eyed Sheridan obviously made a legion of friends through his fine personality. And this not only held true on the ground but in the air. He rarely failed to personally greet each passenger aboard his aircraft and once wrote a great story in The Saturday Evening Post about the value of public relations practiced by plane crew members.

Hy is credited with originating the now universally practiced habit of an airplane captain talking to his passengers, either personally or by the public address system.

And Hy won a commendation from American Airlines in 1937 for this work. It read in part that he "anticipated passengers' questions," by originating "flight information." What Sheridan actually did when he could not visit the passengers personally was to send back notes to the passenger cabin.

In his prolific writings, Hy Sheridan took complex subjects and translated the technical jargon into plain English that could be understood by the general public. One of these — and one he liked best — was a description of the operation of the Zero Reader in The Saturday Evening Post in 1948, when the navigation aid was brand new.

His consistent features and monthly column in Flying Magazine, "Logging Time With Hy Sheridan," in which he created "Sadie The Stewardess," were "musts" to readers of the magazine. He wrote for many other publications, and his personal correspondence from "Tottering Heights," formerly "Belly Acres," the Sheridan home in Glenn Ellyn, were masterpieces of wit and humor even on the serious subjects.

Science Interest

Few people realized Hy Sheridan's contributions in another field — science. He is credited with an important phase in the development of the proximity fuse for bombs and artillery shells. He is credited with inventing dive bombing, and Fortune Magazine once referred to Sheridan as "one of the 13 men who were most important to the Allied victory in World War II." He delved into fog dissipation, nuclear energy, X-ray work, pilot fatigue, and many other subjects. Often he was working out an invention with the scientists at the Argonne laboratory or the University of Illinois.

Mrs. Sheridan says Hy was strictly an "idea man and he had many. Many

(Continued on Page 23)

BONANZA AIR LINES · CENTRAL AIRLINES Inc. · Southern Airways · TRANS-TEXAS Airways · FRONTIER AIRLINES · PIEDMONT Airlines

STAGE

By John W. Robinson

Fairchild Pegasus

THERE are many good reasons to fly the country's 13 local service airlines. The 17,000,000 passenger miles chalked up each day by the locals is proof positive, but until last month when we made a cross-country round trip all on local carriers nobody apparently considered such a trip was one of the 17 million reasons. Nobody had ever done it before.

You can look at the experience in a couple of ways. In one way it was a first, a pioneer effort. On the other hand, it was reliving the past—a close-up of how commercial aviation connected the East and West 20 years ago. In the latter case, the planes were the same but we can guarantee the service has changed.

Starting in Portland, Maine, because Maine is about as far east as you can get in these United States and also because that's where you are expected to start on a Maine to California junket, we executed a figure eight flight pattern across the country. Denver served as the center point of our unique aerial journey.

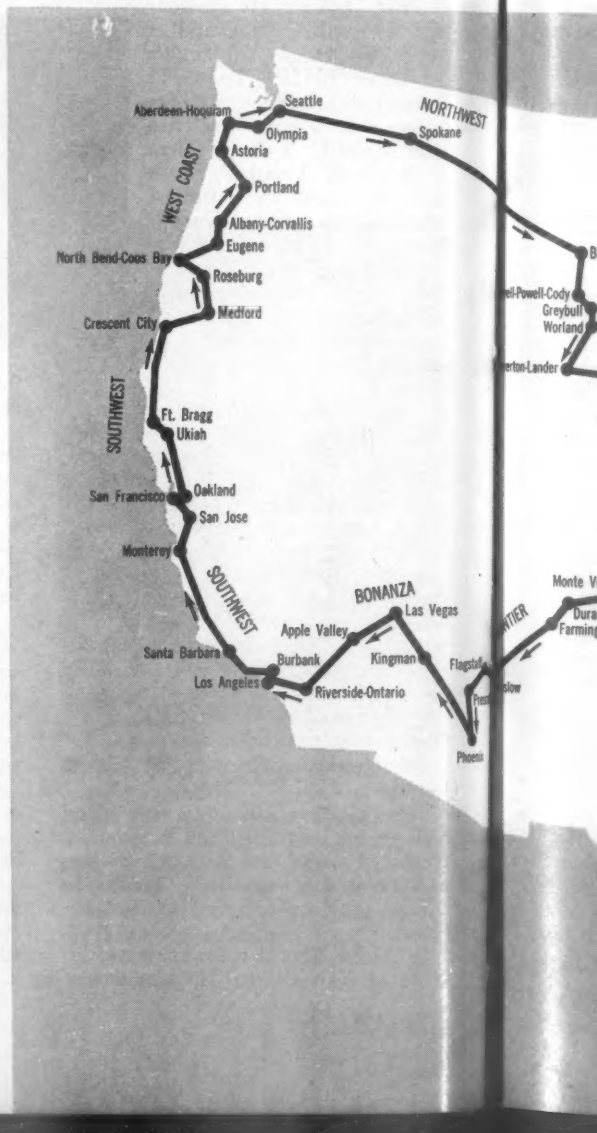
10,000 Miles

In three weeks, we logged more than 10,000 air miles on 124 assorted flights. This totals up to 247 takeoffs and landings, which may be some sort of a record.

Starting in Portland, our first leg was to Boston on Northeast Airlines, which flies a local service carrier type operation in New England. The line operates DC-3's on these routes to make it authentic. From Boston to Detroit, by way of Utica, Mohawk Airlines provided the transportation. In order to fly both North Central Airlines and Lake Central Airlines, we went up to Grand Rapids on North Central, down to South Bend on Lake Central and over to Chicago on North Central. This is not the fastest route, but probably is the most interesting.

Next, Ozark Air Lines took us to St. Louis. The object was now Denver, and to reach it we boarded Central Airlines and proceeded to Dallas, then up to Oklahoma City and on to Denver. This is not the shortest route, but the only way to do it as Central has the only local flight in and out of Denver from the East.

Frontier Airlines flew us to Phoenix, where we connected with Bonanza Air Lines for Las Vegas and Los



COACHES OF THE AIR

Angeles. We went up to the coast to San Francisco and on to Medford, Oregon, on Southwest Airways. West Coast Airlines flew us into Portland, Oregon, and then into Seattle. We took advantage of Northwest Airlines' local service type operations to connect again with Frontier in Billings, Montana.

Mexico to Canada

Frontier, whose route system practically ties the Canadian border to the Mexican boundary, flew us back to Denver and then Central Airlines shuttled us back to Fort Worth.

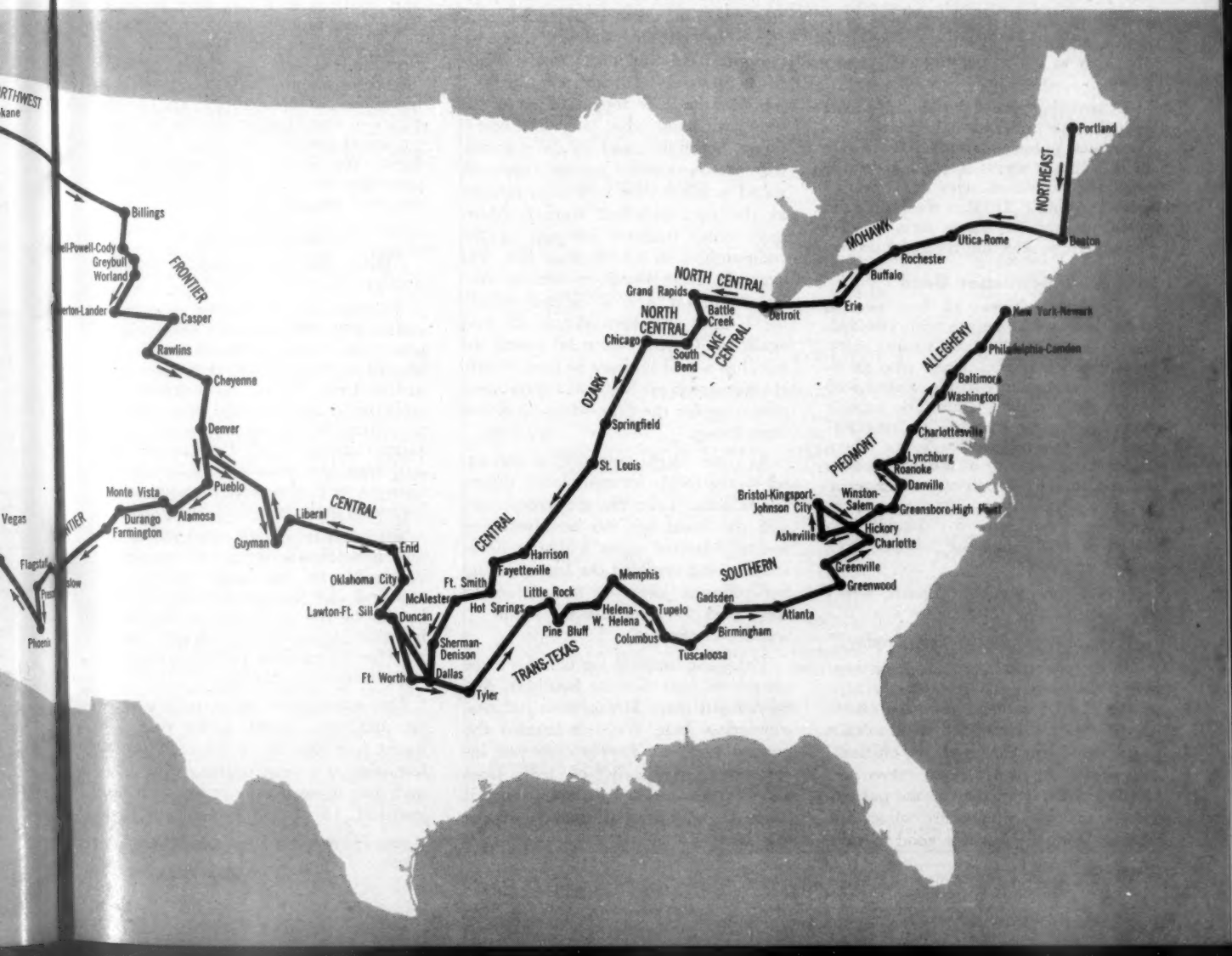
We set our sights next on Memphis, and Trans-Texas Airways made it possible. Southern Airways flew us into Atlanta and on up to Charlotte, North Carolina. Piedmont Airlines got us to Washington, D. C., and back to the East Coast, and Allegheny Airlines completed the trip to Newark airport and New York City.

To escape the risk of this easily becoming a travelogue, we won't go into details of the great American scene as seen through the windows of the locals' low flying DC-3's. In many cases, they not only fly low enough for the traveler to get a real-life cineramic view of nature's beauty marks, but sometimes low enough to wave to people. The lighthouse keepers along West Coast Airlines' ocean route wave to the planes like grandfather and grandmother used to wave when the limited went through town.

Although the majority of our stops were at small fields, we were able to make our overnight stops at major points. Another time, we would arrange it so we could spend more time at the out-of-the-way stops.

"Our Airline"

For it is in the smaller communities that you become thoroughly aware of what the locals mean to millions of



people. More often than not, you hear the expression "our airline" while waiting to board at the whistle stops.

We did spend one night, unexpectedly because of exceptionally bad weather, at a remote stop. It was in Liberal, Kansas. By this time we were not surprised at all when the desk clerk in the local hotel called our room the next morning with the information that "our airline" would be taking off in an hour and would be sending a car.

One of the favorite pastimes in many of the communities served by the locals is to take the family to the airport to watch the planes. The plane watchers, particularly the younger ones, react to the flight crews much as bleacher fans cheer their favorite baseball players. The watchers and the crews wave at each other like old friends. It has a definite effect on the crew. On several occasions we saw the stewardesses hand ground agents chewing gum for the younger plane watchers.

"I just can't help myself," one stewardess admitted, "it means so much to the kids to get something off an airplane."

If anything rivals the locals' almost unbelievable operational record, it's their own public relations. The beauty of it is that it seems to come naturally with the personnel who deal directly with the public. It takes the right kind of people and the locals seem to have the touch for selecting the right people.

Stewardesses Good

The stewardesses—all but two or three lines now operate with stewardesses—is the local carrier's super salesman. She's the receptionist who greets the new customer, and the hostess who acknowledges old friends. The regular passengers are referred to as "steadies" and the stewardesses welcome them with the familiarity of a conductor on a Long Island railroad commuter train. It isn't necessary to turn around in your seat to know a "steady" has boarded. The dialogue always goes something like:

"Good morning, Mr. Smith, how's the Family?"

"Fine, Susie. Charlie flying today?"

While you don't get, and furthermore don't expect, the plush champagne flight treatment non-stop coast-to-coast air travelers have come to take for granted, the informal, yet efficient, manner of the locals' flight crews and the relaxed congeniality of the passengers create an atmosphere somewhat akin to being a guest in a good friend's home. It's a pleasant and heart-warming way to fly.

Average Trip 77 Miles

Refreshments normally end with a cup of instant tea or coffee, or, if you are on Southern Airways, a bottle of Coke. This is sufficient for the majority of passengers, since the average local flight is something like 77 miles. Still, if hunger strikes, there is no reason to panic. Your stewardess will think of something. Like the case of special Trans-Texas Airways service we were afforded when lunchtime rolled around 1,500 feet over Arkansas. The stewardess, Cokey Stoker, took our orders for sandwiches and Captain R. M. Boyd radioed ahead to Pine Bluff, our next stop. When we taxied up for a three-minute stop at Pine Bluff, the airport coffee shop crew stood ready to hand us our neatly wrapped sandwiches. Scheduling was perfect; the grilled cheeses were hot. The stop and go routine of the local service operation might tax some experienced trunk line travelers, but it attracts many experienced crew members to the locals. Most pilots will quickly tell you it's a job that can't be topped. First of all, they are doing what they like best—flying. Secondly, most fly daily round-trip routes which means they can spend as much time with their families as the average office worker. Many have other business interests in the communities in which they live. For example, Dale Booth, a Central Airlines Captain who pioneered DC-3's for United and then did it all over again for Central when he joined the line, has a boat business in Fort Worth. He spends his off hours at his business, preparing for the time when he retires from flying.

At times, flight personnel is attracted to the locals for completely different reasons. Take the stewardess who said she loved her job because flying several hundred miles a day is never routine, and confided she had given up her previous job as a taxi driver in New York City because she found "it was too confining."

There are unusual job benefits to be considered, too. On the Southern Airways flight from Memphis to Atlanta, stewardess Jane Weydert handed the ground agent at Tupelo cash and instructions for an order of steaks from a local meat packing plant. "I'll pick it up on the way through tomorrow," she told him.

Reach Remote Areas

Today much is being told, and rightfully so, about how the locals are playing an important role in helping industry and business thrive in remote parts of the country by linking small communities to the large. But don't overlook the advantages offered even to the smallest businessman. When our Frontier plane rolled up to the terminal at Alamosa, Colorado, only one passenger made his way toward us. The ground agent, however, pushed a loaded luggage cart toward the plane—loaded with paint cans, brushes and sundry equipment. While the agent loaded the cargo on the plane, the man, obviously a painter and dressed in overalls decorated with paint stains, quietly found a seat. A cigarette and a cup of coffee later, he got off the plane at Monta Vista to paint a house.

Local service pilots are probably the most practiced pilots in the business. Most of them perform more takeoffs and landings in a day than many of their cross-country flying counterparts make in a week. One West Coast Airlines flight calls upon the pilot to make 24 takeoffs and landings a day. Perfectly executed landings are hardly topics of conversation on the locals as we found out on a Bonanza Air Lines flight. We simply commented to the passenger next to us that the landing was real smooth.

Steady Passengers

"What did you expect?" was the answer. An obvious "steady."

This confidence in the pilot isn't confined to the passengers and in some cases is far reaching. When we climbed aboard a North Central flight, stewardess Irene Vassi was exhibiting a wide smile and a brand new engagement ring. She was going to marry the pilot, Captain A. C. De Renner. She had seen him handle so many situations so well, she said, that she knew he would make a perfect husband.

Although it is not considered desirable for stewardesses to be married, it is possible to run into a number of husband and wife teams working side by side on the local systems. The combination appears to be working favorably for the carriers, but it can have its complications at times.

One traveler we know suggested to an attractive ticket agent that she might join him for a drink. It was a fine idea as it was quitting time, she said, but it must be cleared with her husband. He wasn't difficult to find.

(Continued on Page 20)

Simulators . . .

(Continued from Page 6)

tion high but every minute that they are operating is taken from the time between overhauls. At the same time the operation of the engines is critical and improper handling of them can do great damage.

The jet engine simulator using similar electronic computors to those used in the flight simulator should prove to be very valuable in the training and checking out of personnel in the operation of jet engines, largely for the reason that the jet trainer can be run to any extent necessary, all troubles simulated and the difficulties that are simulated will not damage the equipment.

Along the same line a simulator of the Douglas DC-8 has been purchased by United. This machine will be built by Link Aviation Devices. This DC-8 simulator represents considerable advances in flight simulation in that cockpit motion and visual landing will be included, as well as the somewhat more precise representation of the airplane, its control and its characteristics. The cockpit motion, by electronically controlled hydraulics, will give more feel to the simulator and improve other things as well.

Simulated Airport

A map of the airport runway, made to a scale of 1--300 will be remotely located for it is 90 feet long. An industrial type of television camera represents the position of the airplane and a projector type of television is located over the cockpit projecting onto a screen some 15 feet ahead of the pilot's eyes.

A strip of country about 21,000 feet long and 3,000 feet wide will be represented on the map and the length of the runway can be varied from about 8,000 to 12,000 feet. On an instrument approach, accordingly, the simulator can show a breakout under the overcast as high as 600 feet with the runway up to as much as 9,000 feet ahead when the 12,000 foot runway is being used.

This simulator will be ready for delivery about May of 1958; one full year before the delivery of the first training airplane. This will allow United's crews to be trained in the simulator to a considerable extent before the airplane itself is available. It is expected that this will be an important thing in the development of jet transportation by United Air Lines.

Credit Union . . .

(Continued from Page 8)

treasurer-clerk.

After explaining that the FCU was chartered by the federal supervising agency on November 26, 1947, but did not get into operation until February 4, 1958, Duvall in his report of April 30, 1948, said:

"We now have been in operation just over three months and as of April 30, we have paid in on shares $13,281.25. As of this same date eight loans were outstanding, totaling $1,871.87."

Shareholder No. 1, was ALPA itself, which first granted FCU $500 to defray organizational expenses after the delegates to the 9th ALPA convention in 1947 voted its establishment.

A year rolled around and again Duvall reported:

"I believe it will be realized that we have not only had a very auspicious growth and surmounted many of the problems which were presented, but also have been a great service to our members and ALPA.

"Very seldom has a credit union had such an outstanding growth during its first year of operation and the detailed report which follows substantiates the fact that there is a definite need for such a service within the ALPA organization and that the members and employees of ALPA intend to support the credit union."

That year, 1949, found FCU with assets totaling $50,834.82 and 706 members.

It has been going upgrade ever since.

AIR LINE PILOTS ASSOCIATION FEDERAL CREDIT UNION FINANCIAL AND STATISTICAL REPORT DECEMBER 31, 1957

BALANCE SHEET

ASSETS		Dec. 1957		Dec. 1956
Loans	(1468)	$1,113,329.43	(1271)	$ 893,473.44
Cash		279,101.87		150,875.91
U. S. Bonds		127,435.83		177,120.18
Federal Savings & Loan		50,000.00		50,000.00
Furniture & Fixtures		2,042.84		2,437.28
Prepaid Expense & Misc.		418.18		111.04
Total		$1,572,328.15		$1,274,017.85
LIABILITIES				
Shares		$1,466,770.78		$1,186,802.95
Reserve for Bad Loans		42,559.74		32,881.36
Undivided Profits		6,685.10		7,160.38
Profit		55,215.18		46,601.98
Accounts Payable		1,097.35		571.18
Total		$1,572,328.15		$1,274,017.85

STATEMENT OF INCOME AND EXPENSE

INCOME	Dec. 1957	Year to Date 1957	Dec. 1956	Year to Date 1956
Interest on Loans	$7,494.56	$84,526.36	$6,263.49	$72,668.28
Investment Income	887.50	6,251.65	637.50	3,027.64
Total	$8,382.06	$90,778.01	$6,900.99	$75,695.92
EXPENSES				
Salaries	$1,893.58	$21,489.67	$1,564.98	$19,948.06
Office Expense	143.97	3,156.65	192.66	3,065.63
Educational Exp.	.....	113.96	.....	71.00
Loan Insurance	701.27	6,404.83	571.77	3,996.94
Depreciation	32.87	394.44	32.87	—(172.64)
Misc.	17.12	4,003.28	.....	2,184.95
Total	$2,788.81	$35,562.83	$2,362.28	$29,093.94
Net Profit	$5,593.25	$55,215.18	$4,538.71	$46,601.98

STATISTICAL INFORMATION

	Dec. 1957	Dec. 1956
Number of members	4337	3926
Number of Potential Members	17077	15274
Loans Made Since Organization (No.)	7895	6363
Loans Made Since Organization (Amt.)	$6,230,782.07	$4,904,792.79

Certified correct by,
Burton L. McConaghy, Treasurer

Stagecoaches . . .

(Continued from Page 18)

He was the district sales manager and standing right next to her.

With the exception of the Convair 240's that Mohawk operates and the Martin 202's flown by Southwest and Allegheny, the DC-3 is the workhorse of the local airlines. The old birds have proven their reliability over more years than most of us want to remember. They are safe and sound and close members of the family, but, like other carriers, the locals are looking expectantly ahead to the jet age.

It is some kind of justice that the locals—the real Main Street, USA carriers—will be the airlines to place the first American manufactured turbine powered passenger transport in service. This, of course, will be the Fairchild F-27 propjet to be delivered to West Coast, Piedmont, Bonanza and Southwest in early 1958. In addition to propjet power and speed, it means pressurized and air-conditioned comfort will soon be added to the locals' many other attractions.

But don't wait. If you own a pint of sporting blood, be the first on your block to take a real air vacation and see the country via the locals' cross-country routes. You may never have another chance like it.

JUDY GRIST, Bonanza stewardess, shows new F-27 air liner shoulder patch to publicize the fact that her air line is purchasing the Fairchild medium range prop-jet transport.

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ALPA Basic T Instruments . . .

(Continued From Page 4)

"Now, a friend happens along with a pair of stilts which our knotholer borrows. Strapping them on he finds that he can see right over the fence. Now he is in business, and able to take in all the action at a glance.

"There is a distinct parallel in flight instruments, for if each one shows but a single facet of the total picture, it is an obvious gain in comprehension and comfort if we can reduce the number of knotholes we must use, or enlarge the one that is available."

Continuing his subject, Kelley points out that "we are now in an era in which world-girdling flight at ever increasing speed is commonplace.

"It follows that a standard of flight instrument panel arrangement that will be equally desirable and familiar to all pilots, everywhere, will provide the greatest single flight safety contrivance yet devised.

"To localize this concept, consider the situation of but one of our large domestic air lines utilizing several different types of equipment.

"In present practice a pilot may, and often does, fly in each of these several types at random intervals. Despite radical differences in size, weight, performance and type of propulsion, he is expected to operate within their unique limitations while safely flying and efficiently navigating the equipment.

Burdens Increase

"Add to this problem the increasing burden of concentration required by the varied traffic control techniques and approach procedures at saturated air terminals, and it is readily apparent that the flight instruments provided to accomplish the job and the manner of their arrangement must fit as naturally as a favorite house-slipper, so as to prevent preoccupation with badly arranged instruments that keep the aircraft always one jump ahead of the pilot, and keeps the pilot several steps behind the navigation and traffic situation.

"Further emphasizing this problem is the current practice of interchanges and leases of aircraft between airlines, both in domestic and international spheres.

"Another development in commercial aviation that is currently a trend, but which in a few short years will be an inescapable fact, is the inevitable result of the natural and legitimate desire of aircraft operators to achieve the most efficient usage and the maximum utilization of their equipment through the employment of mechanical devices such as automatic pilots and approach-couplers.

"As a consequence, all of the new, large, fast and expensive transports will have these devices as standard equipment, and a few short years thereafter, these aircraft will have become the 'slower,' older equipment used in local and itinerant operation.

"Concurrent with this development, a new pattern of pilot flight experience will have become established. The newly-shaped pilot will initially accumulate manually controlled instrument flight experience on local runs for a year, or two, then move up to the more lucrative and desirable trips utilizing aircraft fully implemented for automatic flight and automatic approach in long haul, non-stop operation.

"He will operate in this environment for several years, until such time as opportunity for promotion to captain moves him over to the left seat and back to the local runs, making frequent stops and using the 'older' equipment.

"Initially, he will have the strain of transition to command responsibility, different equipment and frequent instrument approaches. After a year, or two, of this type operation his seniority will entitle him to fly the more lucrative and more desirable long haul, nonstop flights with the newer, faster, automatically implemented aircraft.

"At this point, in effect, he will have accumulated his total reservoir of manually controlled instrument flight experience. This must serve during the remainder of his flying career as the structure and standard for his intelligent monitoring of automatic flying devices, and as the tool by which he takes over during the landing transition to manual control, and during the occasional, inevitable emergency situations in which the automatic devices become unreliable or unsafe, and in which he is expected to function safely and efficiently.

Simplicity-Safe

"Unless the pilot has been operating with a flight instrument panel that is the ultimate in simplicity and effective presentation, it may be overly optimistic to assume that such situations will be handled in a satisfactory manner.

"When the pilot is provided with the 'ultimate,' panel, an increase in his overall efficiency will result because he will be using the same instruments, in the same manner for every phase of flight operations, thereby achieving operational practice 100 per cent of the time.

"Such a comfortable setup will decrease fatigue, eliminate most of the strain of switching from type to type and will increase pilot tranquility and capacity for the many other activities and problems which he must accommodate.

"Thus will be achieved the ultimate goals of maximum safety, maximum service to the public, maximum economic gain to the operators and happy, long-lived flight crews."

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Air Safety Forum Agenda Ready

(Continued From Page 7)

Members of the panel include James Pyle, CAA administrator; Maj. Gen. K. P. Berquist, USAF director of operations; Gen. Milton Arnold, vice president of the Air Transport Association; E. R. "Pete" Quesada, chairman of the Airways Modernization Board, and Joseph B. Hartranft, president of the Airplane Owners and Pilots Association.

"The CAA and CAB's Enforcement Policy — Does It Promote Safety Or Increase Hazard?" is the subject of the next discussion. Along with an ALPA member will be the following panel members: William B. Becker, ATA director of operations; William Davis of CAA, and Oscar Bakke, director of the CAB bureau of safety.

On the March 6, agenda are three panel discussions — pilot training, runway requirements, and mid-air collision prevention.

Capt. E. R. Watson (EAL), will be chairman of the Pilot Training panel. and will talk on ALPA's views on minimum pilot training requirements. With him will be Mai. Ernest Campbell. Castle AFB. Calif., who will discuss SAC's KC-135 transition experience; John Kemp of the CAA Oklahoma Training Center will talk on "Training For Optimum Performance"; Ron Peel (TCA), Montreal, Canada, will explain "Ground School Training for Turbo-Props and Jet Planning"; Dr. C. I. Barron of Lockheed Aircraft, will discuss "High Altitude Indoctrination Training." and Dr. I. E. Smith. CAA Medical Division, will talk on "Medical and Physical Aspects of Pilot Training."

Runways Subject

The panel on "Runway Requirements for Air Carrier Operations," will be headed by E. A. Cutrell (AAL), ALPA runway lighting chairman, who will talk on "Runway Visual Aid Requirements." Other members of the panel and their subjects are: Capt. L. H. Mouden (BNF), ALPA performance committee chairman, "Runway Operational Requirements," and Herbert H. Howell, CAA director of airports, "CAA's Viewpoints on Runway Requirements for Air Carrier Operation." Representatives of concrete and asphalt companies, airport operators, the USAF, and W. E. Rhoades, United Airlines manager of flight engineering, will participate in the discussion.

Capt. R. A. Stone (UAL), chairman of the ALPA airplane exterior lighting committee, will head the Mid-Air Collision Prevention panel. With him will be Atkins and Jack Tillman (UAL). They will review the problem, explain the infra-red proximity warning system, hear pilots viewpoints, and discuss anti-collision lighting in general.

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Sheridan . . .

(Continued from Page 15)

times he was told by scientists that his ideas were 'sound and practical,' and he was 'way ahead of his time.' Hy held several patents on inventions but never received a return on any of them."

When the nature of his illness became mysterious, he offered himself to medical science as a "guinea pig," so they might determine the cause and treatment of the malady. He underwent several "exploratory," operations in this effort.

Hy Sheridan was born in Leavenworth, Kan., the son of a railroad man who rose to be vice president of the Southern Pacific. Apparently, Hy was interested in flying at an early age as one of the first clippings in an ancient scrapbook is a picture by Norman Rockwell of a World War I army pilot.

And while still in high school, he learned to fly, took examination for army flying, passed, and won his wings with such ability that he became an instructor at Kelly Field. The exact date of his enlistment as a private is not known but he was graduated in the first class of World War I pilots at Kelly, Dec. 22, 1917.

Flew With Pioneers

He stayed in the military 10 years to become one of the early and leading exponents of air power. In his early career, he boxed Jimmy Doolittle at Langley Field, and worked with Gen. Billy Mitchell on bombing techniques. Later he was to personally testify for Billy Mitchell at the famous trial. During his instruction days with the Air Corps, Charles Lindbergh was a student of Hy Sheridan.

Following World War I, Hy Sheridan, lieutenant, was active in many of the publicity making efforts of the Air Corps which brought aviation to the eyes of the general public.

As early as 1919, he was carrying air mail between Scranton and Binghampton, N. Y. He flew newspaper men, important personages, old women — all to get publicity for aviation. Once, he parachuted handcuffed from an airplane. There is evidence he participated in the early cross-country races by the military.

Stationed in Hawaii, Hy Sheridan made a story by building and flying a glider, then started his own aviation column in The Honolulu Advertiser. This, in 1920, apparently was Hy's entry into writing — at least it is the first time his by-line appears. From then on his pen was particularly busy.

Out of the army in 1927, Hy Sheridan went to La Crosse, Wis., where he barnstormed, sold airplanes, and formed the Blackhawk Skyways, an early charter firm. He wrote for the La Crosse papers too.

Pan Am First

By 1929, the records reveal, Sheridan was flying for Pan American Airways, from Memphis, Tenn. His routes were "everywhere," including Mexico City — also his terminal point for the last six years of his flying career with American.

Mrs. Sheridan says Hy quit logging his time personally many years ago, but he was a "Million Mile Man," with ease and had a total of more than 35,000 hours of pilot time.

It was in Memphis in 1933, that Sheridan met one of the first airline stewardesses, Georgie Bliss. In 10 days, Mrs. Sheridan recalls, Hy had convinced her that a wedding ring was the only solution to their friendship.

With Mrs. Sheridan, two sons survive. They are Robert, who has just completed army service and is now a student at Elmhurst College, and Terence, a sophomore at the University of Illinois.

That the Sheridan family will not stop flying is indicated by Terence's interests. He soloed at 17, has both his private license and an A & E rating. His subjects, of course, include flying and aeronautics. Terence wants to fly for the air force, then become an air line pilot.

With his background, the ambition should not be too difficult to realize.

Air Carriers

Ending 100 years of railroad leadership, United States scheduled airlines in 1957 became the number one intercity passenger carrier.

According to Air Transport Association figures, airlines flew an estimated 25-billion passenger miles in 1957, against 22 billion railroad passenger miles.

Railroad leadership ran from the mid-1800's, but showed a steady descent since 1951. When the air transport industry was organized in 1938, it flew only about 500,000 passenger miles, against 18 billion operated by the railroads.

* * *

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Here's why they're successful:

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2. Coin-operated laundry stores enable the housewife to save almost 50% on her weekly laundry bill. She can do her laundry chores faster, cheaper, and better than she can at home or by using other laundry services.

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